

Alchemy in the Abyss

Probing the mysteries of deep-ocean minerals

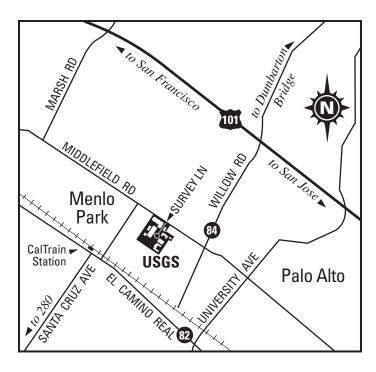
James R. Hein, Marine Geologist

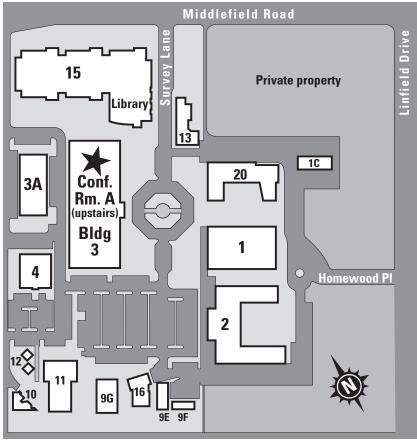
Thurs., May 31, 2007, 7:00 p.m. U.S. Geological Survey Conference Room A, Bldg 3, Menlo Park, California

- Since President Reagan in 1983 extended U.S. mineral rights 200 nautical miles offshore, interest in deep-sea mining has increased
- Massive sulfide deposits form rapidly at very hot ephemeral vents—"black smokers" and "white smokers"
- **5** Slow-forming manganese nodules cover vast areas of the cold abyssal depths
- Cobalt-rich crusts form extremely slowly on the tops of extinct sunken volcanoes
- The year 2009 may see the first commercial mining of deep-sea polymetallic sulfides in Papua-New Guinea waters

Directions to USGS Menlo Park Science Center

The campus of the USGS Menlo Park Science Center is located at 345 Middlefield Road in Menlo Park. From San Francisco, exit highway 101 at Marsh Road, Atherton and go west to the T junction of Middlefield and turn left (south). From San Jose, exit highway 101 at Willow Road, Menlo Park, go west to the intersection with Middlefield, and turn right. Enter the USGS campus at Survey Lane (the main driveway, with large stone markers labeled "U.S. Geological Survey"). You may park in any of our parking areas and walk to Building 3 (see campus map at right).





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